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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,073	02/05/2001	Amena Saied	1029/00205	6625

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EXAMINER

JAWORSKI, FRANCIS J

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/600,073

Applicant(s)

SAIED ET AL.

Examiner

Jaworski Francis J.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 11-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

[Parenthesized numerals pertain to the specific claim or claims being rejected.]

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-16, 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iezzi (US5551432) in view of Reinstein et al (US5293871) and Ritter (US6059728), alone or further in view of Wallace et al (US5165415). Iezzi is directed to a method and structure for three-dimensional scanning and display of ultrasound images of the human eye including the steps and structure for scanning the anterior part of its globe by mounting ultrasound probe 60 to mechanical head 50, connecting head 50 to a three-dimensional scanning system 421-424, positioning the probe in approximate relationship to the cornea (3mm offset per col. 1 lines 34 – 41, autocontrolling the 3D position of the probe in an automatic mode, transmitting high frequency 50 Mhz ultrasound, the center-frequency being a nominal designation for the center of a frequency band (what constitutes a large band is undefined within the claim), the system operating on echoes reflected by tissue. Focussing is coextensive with the desired depth of scan, stated in Iezzi to be 15 millimeters but non-limited in the Z or depth direction, see col. 4 lines 6-9 thereby allowing for posterior globe examination.. The acquired images serve to provide a real-time scrolling scan display of the eye.

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lezzi does not specifically teach computer control of the auto-scan mechanical scan function. However it would have been obvious in view of Reinstein et al col. 4 lines 24-26 to do so since in this similarly high resolution 3D ophthalmic scanning system (col. 4 lines 37-39) a computer is used to control the scan to assure the accurate movement linearity required to maintain the even resolution of the 3D image. lezzi additionally allows for a larger penetration depth over 15 millimeters but does not specifically indicate a 20-30 mm scan depth range. However it would have been obvious in view of Ritter (directed to an analogous electronic array-scanned 3D ophthalmic system) to provide a focal zone of 13 – 40 millimeters in order to completely scan the posterior eye, see col. 4 lines 16-25. The fact that Ritter specifically teaches such a zone range in an analogous suffices to complete the base claim rejection. In the alternative, Wallace et al while directed to an ophthalmic layer thickness biometer and not an imager notes in col. 4 lines 53 – 55 that the retinal surface falls at a distance of 18.5 – 29 millimeters in depth forward of a contactultrasound probe. Hence a complete ophthalmic posterior eye structure exam as allowed for by lezzi would be expected to encompass 20-30 mm depth. (Claims 11-14, 16).

Since the ophthalmologist practitioner would expectedly be familiar with diabetic retinal circulation disorders – for example Ritter is concerned with retinal detachment (as might occur in diabetes) there is overlap in the distinction between an ophthalmic exam in lezzi/Reinstein et al/Ritter and a cardiovascular or blood vessel assessment. (Claim 15).

Reinstein et al fig. 2 evidences that an ophthalmic scan may be arc-like in format, see Fig. 2 (Claim 19).

lezzi evidences that a cartesian variant is suitable for such scanning, see col. 1-2 bridging. (Claim 20).

Reinstein et al evidences that the 'eye cup' called for in lezzi col. 1 lines 37-41 might be an open-bottomed device 20 connected at its upper end to the probe, see Fig. 1 element 20.

Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over lezzi in view of Reinstein et al and Ritter, alone or further in view of Wallace et al as applied to claim 16 above, and further in view of Kossoff (US4167180). The aforementioned references do not specifically teach focal adjustment or a servomechanism therefore, although Ritter discusses electronic focusing. However it would have been obvious in view of Kossoff which teaching is directed to eye examination by a scaling of system size, see col. 1 lines 59-63 to provide electronic control of mechanical focusing via Z-axis range adjustment along tracks 11 in order to bring the ultrasound transducers into focus within the targeted zone..

#### Response to Arguments

The substitute Specification has been entered and claims 11-21 as presented on August 20, 2003 are presented for examination, thereby mooting the issues associated with the rejection of the original claims in the Office action mailed February 28, 2003.

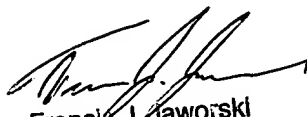
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This action is not made final however the case should be prepared for final action.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 703-308-3061.

FJJ:fjj

6-26-04



Francis J. Jaworski  
Primary Examiner